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WORLDWIDE CRISIS ALERTING NETWORK, PHASE II, TASK 1, REVIEW OF --ETC(U)
MAR 80 H P HIMPLER, J F HOLMES DCA100-80-C-0010
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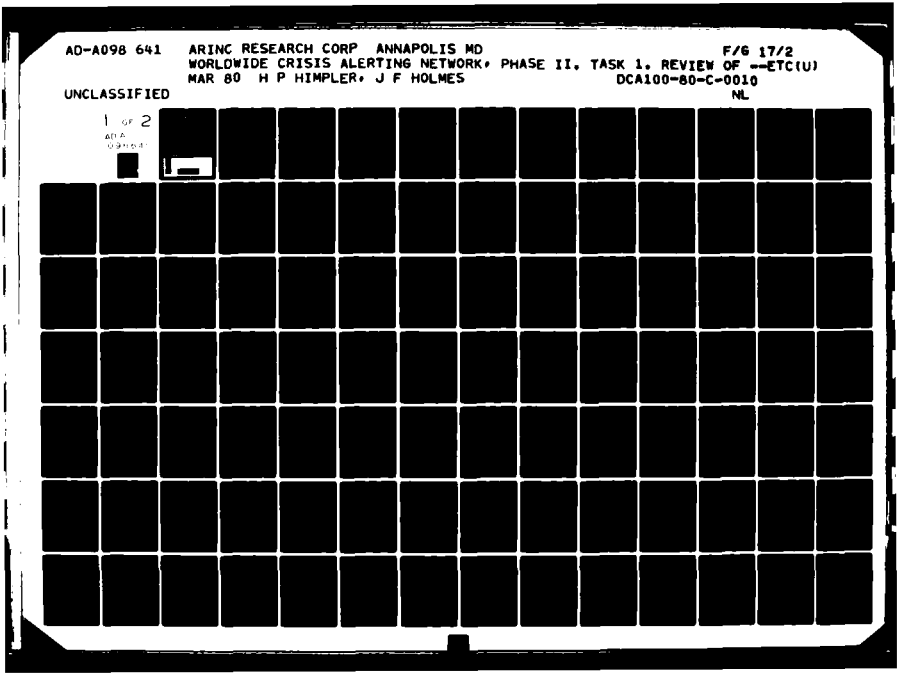

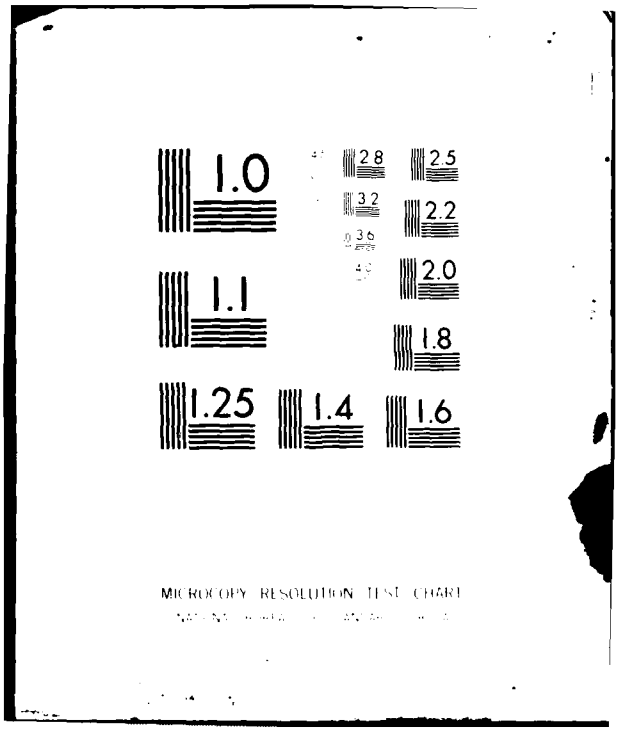
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AD A098641

TASK 1 REPORT
REVIEW OF RELATED WORK
WORLDWIDE CRISIS ALERTING NETWORK, PHASE II

March 1980

Prepared for
DEFENSE COMMUNICATIONS AGENCY
WASHINGTON, D.C. 20305
under Contract DCA100-80-C-0010

ARINC RESEARCH CORPORATION

Unclassified

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

ARINC Research Corporation is developing a system architecture for the Phase II Worldwide Crisis Alerting Network (WCANII). The objective of the program is to provide communication connectivity between specified U.S. and allied military and civilian subscriber groups.

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SECURITY CLASSIFICATION OF THIS PAGE (When Date Entered)

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by

H.P. Himpler
J.F. Holmes

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CHAPTER ONE

INTRODUCTION

ARINC Research Corporation is developing a system architecture for the Phase II Worldwide Crisis Alerting Network (WCAN II) under contract DCA100-80-C-0010 for the Defense Communications Agency. The objective of the program is to identify alternative procedures and means to provide communication connectivity between specified U.S. and allied military and civilian subscriber groups. The effort encompasses the simplification and standardization of the means associated with the submission of crisis alerting messages so that they can be handled more reliably and expeditiously than is currently possible. The project will examine the telecommunications systems currently serving each subscriber group and for each such telecommunication system, postulate interface means and procedures. The resulting modification of interface means and procedures will permit incidents, that are first recognized outside the military, to be reported quickly and efficiently to the proper authorities. This report addresses the results of our effort on Task 1 - Review of Related Work.

1.1 OBJECTIVES OF TASK 1

The primary purpose of the first task of the project, Review of Related Work, was to determine the extent, if any, to which tasks contained within the contract statement of work may already have been accomplished. A

secondary objective was to assure the utilization of the latest technology in performing the work. In addition, ARINC Research recognized the need to seek out documents related to the performance of our WCAN Phase II efforts. ARINC Research Corporation has been assisted by its subcontractor, TRW Inc., Defense and Space Systems Group, Falls Church, Virginia, in performing this task.

1.2 ORGANIZATION OF THE REPORT

Chapter One of this report has served as an introduction to the results of our Task 1 effort: Review of Related Work. Chapter Two contains the primary deliverable for Task 1 of the contract, the statement of prior completion. In addition, the method of conducting the Task 1 literature review is described and a summary table of applicable documents is provided. The abstracts of these documents are found in Appendixes A through J.to this report. Appendix K contains a list of documents which have been ordered and will be reviewed upon receipt. If any of these documents are found to be applicable, an addendum to the Task 1 report will be issued. Appendix L to this report contains listings of information requests used to conduct the Defense Documentation Center (DDC) portion of the review.

CHAPTER TWO

STATEMENT OF PRIOR COMPLETION AND METHODS AND SOURCES USED IN CONDUCTING THE REVIEW

2.1 STATEMENT OF PRIOR COMPLETION

After conducting a thorough review of related and special data sources, ARINC Research Corporation is reasonably certain that none of the technical work required under contract DCA100-80-C-0010, nor any of the elements of that technical work, has already been accomplished. In the event that future investigations may reveal some documentation tending to refute our conclusion, ARINC Research will provide an addendum to this report describing those findings in detail. From the documentation reviewed to date, the likelihood of such a finding is considered to be remote.

2.2 METHODS USED IN CONDUCTING THE REVIEW

Abstracts, subject listings, and title listings of potentially applicable documents were obtained from services of specialized and general data sources. Some of the specialized source searches were accomplished through computer-aided searches, but most sources were identified through manual reviews of abstract listings. Data identified through the Defense Documentation Center (DDC) was obtained by submitting Standard Forms DDC4 (Information Request). A total of twenty-one (21) such requests were processed using a variety of approaches to the subject matter. Copies of these requests are found in Appendix L of this report.

Abstracts and other data listings were reviewed for applicability. Wherever abstracts were not available, copies of potentially applicable documents were reviewed. If found applicable, these were abstracted and included in this report. In those cases in which neither the document nor an abstract could be obtained in a timely manner, a copy of the document was ordered and will be reviewed upon receipt. Abstracts of applicable documents obtained in this latter category (if any) will be forwarded as an addendum to this report.

2.3 SOURCES USED IN CONDUCTING THE REVIEW

The following is a listing of the general and special data sources searched for documentation directly applicable to the WCAN Phase II tasks.

1. ARINC Research Technical Information Center (TIC) files
2. ARINC (Aeronautical Radio, Inc.) files
3. Subcontractor (TRW Defense and Space Systems Group) data
4. Documents listed in ARINC Research proposal 1G38-29
5. Documents listed in contract DCA100-80-C-0010
6. Maritime Research Information System (MRIS) Abstracts (Vol. 16, December 1977 and Vol. 18, December 1978)
7. ARINC Research TIC shelf copies of DDC Abstracts (monthly from June 1978 through January 1980)
8. Defense Documentation Center (DDC), National Technical Information System (NTIS) Information Requests (Refer to Appendix L to this report)

2.4 RELATED DOCUMENTS

Abstracts, subject listings, and title listings obtained through the sources described above yielded many thousands of document listings with a high degree of redundancy and overlap in the search (using variations of keywords, descriptors, etc.). All of these were reviewed for applicability to the WCAN Phase II project. Over one hundred (100) abstracts were identified as potentially applicable to the project at least in some partial manner. These have been further reduced to a list of seventy-two (72) documents that have the most direct major bearing on the WCAN Phase II effort.

For ease of utilization, the abstracts have been divided into nine major categories as described in Table 2-1. As indicated, the abstracts themselves appear in appendixes A through J (with I excluded).

Table 2-1. CATEGORIES OF RELATED DOCUMENTS

Category	Appendix Reference
(1) AUTODIN	A (01-11)
(2) WWMCCS	B (01-04)
(3) WCAN	C (01-06)
(4) Airlines	D (01-05)
(5) Maritime	E (01-17)
(6) International	F (01-09)
(7) Non-DoD Government	G (01-15)
(8) Offshore	H (01-04)
(9) NATO	J (01)

Appendix K of this report is a listing of those documents for which no abstracts are available and for which we have not yet received the ordered document. Most of these are classified or have limited distribution and were thus not available to us in the limited period of performance of Task 1. When these documents are received, they will be reviewed in depth to determine applicability to the WCAN II tasks. As mentioned earlier, any that are found to be applicable will be described in detail in an addendum to this report.

Table 2-2 presents a summary of the 72 documents determined to have the greatest relation to the WCAN II project. Referring to this table, these documents have been sub-divided into the nine categories defined in Table 2-1, as identified in the first column entitled "Location Code". This code will aid the reader in locating the reference in the appendixes. Associated with each report title is its security classification, author, originating (or sponsoring) agency, date and task application.

Table 2-2. SUMMARY OF RELATED DOCUMENT ABSTRACTS

Location Code	Title	Class.	Author	Originating Agency	Date	Task Application
	AUTODIN (Appendix A)					
A01	AUTODIN Operating Procedures	U	-	JCS	4/75	3,6
A02	WCAN AUTODIN Software Spec.	U	-	DCAOC	9/79	3,5
A03	SEIP, Low Level Mod. of Mode V AUTODIN S/T (Overseas Only)	U	-	Army CC	7/77	2,4,6
A04	C^3 Connectivity - 1978 Working Papers	C	-	TRW	2/78	3
A05	DCA AUTODIN Switching Center & Tributary Operations	Off. Use	-	DCA	8/72	3
A06	Initial AUTODIN II SIP Spec.	U	Kulkanni	DCA	3/79	2
A07	Unified Network/Traffic Xmit Media Control	U	CSC	DCA	8/77	2
A08	Integrated AUTODIN System - Generation of Viable Far Term Architecture for Integrated AUTODIN	U	Shrier & Tonelli	DCA	6/79	4
A09	IAS-Categorization & Spec. Requirements for a Common Family of Terminals	U	Landis & Garber	DCA	5/79	4
A10	ALERT Message Processing Software Spec for AUTODIN	?	-	DCA	12/78	3,5
A11	IAS-Mid Term Architecture Definition	U	Messina et al	DCA	2/79	2,4
	WWMCCS (Appendix B)					
B01	WWMCCS Five Year Plan	Top Secret	-	DCA/WSE	11/79	3
B02	WWMCCS Current System Description 1978	S	-	WSEO	1978	3
B03	WWMCCS Interim Standard ADP/ Communications Guide	U	Sherman	CCTC	12/77	3,4
B04	WCAC WWMCCS Transition Plan	S	-	WSEO	11/77	3,6
	WCAN (Appendix C)					
C01	WCAN System Spec	C	-	DCA 400	10/78	3,5,6
C02	MEP for WCAN	C	-	DCA 400	9/79	3,4
C03	Joint Reporting Structure	Off. Use Only	-	JCS	7/76	3,6
C04	Joint Operating Planning System	?	Vol. IV	JCS	?	3
C05	Handbook of SOP for Reporting of Critical Information	C	-	NSA	4/76	3
C06	Critical Information Message Preparation & Communication Procedures	C	-	JCS	5/77	3
	AIRLINES (Appendix D)					
D01	Official C.A.B. Airline Route Maps & Airport-to-Airport Mil.	U	-	C.A.B.	3/78	3
D02	Air-Ground R/T Stations - Domestic VHF Networks	U	-	ARINC	2/80	2
D03	Air-Ground R/T Stations - International Service	U	-	ARINC	3/7	2,3
D04	FBI Connections During Aviation Security Incidents	U	-	ARINC	1/80	2
D05	Description of Service & Operating Procedures - Air/Ground Operations	U	-	ARINC	1/79	2,3

Table 2-2. SUMMARY OF RELATED DOCUMENT ABSTRACTS

Location Code	Title	Class.	Author	Originating Agency	Date	Task Application
	MARITIME (Appendix E)					
E01	Merchant Fleet Forecast of Vessels in U.S.-Foreign Trade	U	Temple, Barker & Sloane	MARAD	5/78	2,3
E02	U.S. Ocean Bound Foreign Trade Routes	U		MARAD	3/78	3
E03	Vessel Inventory Report	U	-	MARAD	4/79	2
E04	Merchant Fleets of the World	U	-	MARAD	1/79	2
E05	A Production Terminal for MARISAT	U	Kelly	RTCM	4/76	2
E06	Essential U.S. Foreign Trade Routes	U	-	MARAD	6/75	3
E07	A Ship Terminal for MARISAT	U	Williams	RTCM	4/76	2
E08	Listing of Installations of MARISAT Terminals Aboard Ships & Offshore Facilities	U	MARIFACTS	Comsat Gen.	12/77	2
E09	New UHF Autotune Communications System for Ships	U	Secord, et al	IEEE	3/77	2
E10	MARISAT	U	Lipke	Comsat	1977	2
E11	MARISAT Requirements & Utilization	U	LaRosa	RTCM	4/77	2
E12	An Inexpensive Synchronous Comsat Terminal	U	Turner	NUSC	4/77	2
E13	New Great Lakes-Wide All-VHF Automatic Marine Telephone System	U	Herrick	RTCM	4/77	2
E14	Feasibility of IDCS	U	Kolb	AIMS	12/76	3,4
E15	Analysis of Maritime HF SSB Voice Comm. System for the N. Atlantic & S. Pacific, Vol. I-III	U	Adams & Kissick	USCG	3/77	3
E16	Simplex TOR STB 750 for Worldwide Radio Telegraph Comm.	U	Azimullah	MRIS	12/77	2
E17	Study of Alerting & Locating Techniques & Their Impact (SALTTI)	U	-	CSC	9/75	2
	INTERNATIONAL (Appendix F)					
F01	Air Navigation Plan	U	-	ICAO	9/77	3,4
F02	Aeronautical Comm. - Annex 10	U	-	ICAO	7/72	2
F03	DoD Flight Info. Pub - Enroute	U	-	DMA	Mthly	2
F04	SITA: An Essential Communications System for the Airline Industry	U	Vandyk	Airline Executive	8/78	2
F05	International Aeradio Serves Airlines Throughout the World	U	Vandyk	Airline Executive	4/79	2
F06	Developments in MarSat Comm.	U	Hoskyns	-	10/77	2
F07	Progress Report on the Development of an Integrated Crisis Warning System	U	Andriole	D&D, Inc.	12/76	2,4
F08	MARITEX	U	Lundberg	RTCM	4/77	2
F09	Automated Maritime Telephone System	U	Konura	MRIS	10/77	2
	NON-DoD GOVERNMENT (Appendix G)					
G01	Airport Activity Statistics of Certificated Route Air Carriers	U	-	FAA	12/77	2,3
G02	Communications Requirements for a 1985-2000 Operational Aeronautical Satellite System	U (Lim.)	Cornett, et al	FAA	5/75	4
G03	Definition, Description & Interfaces of the FAA's Developmental Programs. Vol. I & II	U U	Keblawi Keblawi	FAA FAA	9/78 9/78	2,3
G04	Interim Helicopter Comm. System Plan	U (Lim.)	White & Berry	FAA	9/79	2
G05	Definition of an Improved FAA Communications Management System. Task 2	U	Bolam & Kolb	FAA	6/79	4

Table 2-2. SUMMARY OF RELATED DOCUMENT ABSTRACTS

Location Code	Title	Class.	Author	Originating Agency	Date	Task Application
	Appendix G (Continued)					
G06	Operational Benefits of the Improved FAA Communications Management Software - Task 3	U	Bolam & Kolb	FAA	9/79	4
G07	Study of Auto. Message Handling Functions at Coast Guard Communication Centers	U	Smiley, et al	USCG	5/78	2,4
G08	Maritime Dynamic Traffic Generator, Vol. I-III	U	MacKenzie et al	TSC	6/75	2,3,4
G09	Applications of a Satellite-Aided Search & Rescue System	U	Wilder & Trudell	USCG/NASA	4/77	2
G10	Government Maritime Communications Study	U	-	USCG	1972	2,3,4
G11	Crisis Communications Requirements	U	Ibsen	NPGS	9/74	2
G12	Predicted Reliability & Coverage Areas for HF Maritime Communications	U	Kissick	USCG	4/77	2,3
G13	Who Can I Turn To - Dilemma of of the Country Team	U	Hayward	State Dept.	1/73	4
G14	Search & Rescue - Methods & Equipment	U	Kenton	NTIS	6/78	2
G15	Maritime Communication Experiments - NASA ATS6	U	Engls, et al	USCG	5/78	2
	OFFSHORE (Appendix H)					
H01	Changes Slight in Platform Construction	U	-	"Offshore"	1/80	2
H02	Offshore Platforms & Mooring Terminals Under Construction and Planned	U	-	"Ocean Industry"	3/79	2
H03	Communications Aid the Flow of North Sea Oil	U	Bedwell	"Telecommunications"	5/75	2
H04	1979-80 Directory of Marine Drilling Rigs	U	-	"Ocean Industry"	9/79	2
	NATO (Appendix J)					
J01	The Evolution of NICS	U	Anderson	"Signal"	4/79	2

APPENDIX A

AUTODIN ABSTRACTS

WCAN, PHASE II

LOCATION CODE A-01

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☒ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: AUTODIN Operation Procedures, JANAP 128 (F)

AUTHOR/AGENCY/DATE: JCS, April 1975

ABSTRACT:

This publication prescribes the operating procedures and practices applicable to AUTODIN. Included in this document are the facility description, general operating instructions, TTY messages, data pattern messages, and mag tape terminal.

APPLICABILITY: Subtask 3.3 (WWMCCS Interface) and Task 6 (WWMCCS Interface Implementation Concept)

WCAN, PHASE II

LOCATION CODE A-02

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☒ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Alert Message Processing Software - Specification for AUTODIN

AUTHOR/AGENCY/DATE: DCAOC N343 / September 1979

ABSTRACT:

WCAN AUTODIN Software Specification document.

APPLICABILITY: Subtasks 3.1, 3.4, 3.6(Requirements and Procedures), Task 5 (Preferred Interface Procedures)

WCAN, PHASE II

LOCATION CODE A-03

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☒ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Standard Engineering Installation Package, Low Level Modification of MODE V AUTODIN Subscriber Terminal (Overseas Only)/AD-A044 954

AUTHOR/AGENCY/DATE: Army Communications Command/July 1977

ABSTRACT:

This standard engineering installation package (SEIP) assists managers, engineers, technicians, logistics personnel and project officers to plan, engineer, install, and modify low level MODE V AUTODIN subscriber terminals (overseas). Document provides system description along with technical functional information of main equipment. It contains a list of applicable documents, provides a checklist for site surveys, and provides instructions for modification of equipment, to include applicable drawings and bill of materials. The SEIP describes quality assurance inspections and gives sample forms to ascertain areas of responsibility, checklists, and certification. One section gives a detailed test plan and checkout procedure while the system is in operation and suggests the form for a technical acceptance record. The SEIP also contains a completion certificate that verifies the project has met all test criteria.

APPLICABILITY: Tasks 2, 4, 6

WCAN, PHASE II

LOCATION CODE A- 04

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☒ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: C^3 Connectivity - 1978 Working Papers (U)

AUTHOR/AGENCY/DATE: TRW, 31025-0392-C16, 1 February 1978, CONFIDENTIAL

ABSTRACT:

Various DCS C^3 connectivity. Included in this document are network connectivity diagrams for LANT, PAC and EUR, AUTODIN IST connectivity and AUTODIN access line connectivity.

APPLICABILITY: Task 3.2 (Communication Systems Selection) and Task 3.3 (WWMCCS Interface)

WCAN, PHASE II

LOCATION CODE A- 05

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☒ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: DCS AUTODIN Switching Center and Tributary Operations

AUTHOR/AGENCY/DATE: DCA, Circular 310-D70-30, Aug 1972, FOR OFFICIAL USE ONLY

ABSTRACT:

This circular provides standard procedures for the operation of an ASC and its tributaries. Included in this circular are ASC management, ASC Functional areas, traffic operations and tributary operations.

APPLICABILITY: Task 3.3 (WWMCCS Interface)

WCAN, PHASE II

LOCATION CODE A-06

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☒ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Initial Autodin II Segment Interface Protocol (SIP) Specifications. Revision./AD-A071 670

AUTHOR/AGENCY/DATE: Kulkarni, V.R./Western Union Telegraph Co./May 1979

ABSTRACT:

This document provides the functional specification for the AUTODIN II Segment Interface Protocol (SIP) in the abstract sense. It describes the externally (to the host) visible and mandatory portions of the SIP. It describes the protocol commands and formats, and the prescribed state transition stimuli and responses.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE A-07

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☒ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Unified Network/Traffic Transmission Media Control/ AD-A071 564

AUTHOR/AGENCY/DATE: Computer Sciences Corporation/August 1977

ABSTRACT:

This task encompasses an analysis of the present overseas Defense Communications System (DCS) transmission media, network and traffic control methods and procedures and development of recommended unified system control mechanism for the near-term Overseas DCS. The analysis addresses the existing transmission systems, AUTOVON, AUTODIN (I), AUTOSEVOCOM (I), and special circuits which restricts this study to the current complement of DCS equipment in the field. Planned systems, such as AUTODIN (II), AUTOSEVOCOM (II), and planned control improvements, such as RTAC for DSCS, are subjects for future study. The effort encompasses developing a unified system control configuration responsive to the needs/requirements of the various control levels of the DCS, identification of the functions to be performed at each level, and the hardware/software capability required in support of these functions.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE A-08

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☒ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Integrated Autodin System (IAS). Generation of Viable Far-Term Architectures for IAS/ AD-A072 165

AUTHOR/AGENCY/DATE: Shrier, Stefan; Torelli, P./Booz-Allen and Hamilton, Inc., Communications and Information Div./June 1979

ABSTRACT:

This report presents an implementation of a methodology for the synthesis and ranking of logical architectures. The purpose of the methodology is to generate in a plausible manner, those logical architectures that lead to the identification and selection of candidate network architectures.

APPLICABILITY: Task 4 (Integrated Development Resource)

WCAN, PHASE II

LOCATION CODE A-09

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☒ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Integrated Autodin System (IAS). Categorization and Specification Requirements for a Common Family of Autodin Terminals/AD-A072 164.

AUTHOR/AGENCY/DATE: Landis, W.; Garber, S.; Letner, R./Booz-Allen and Hamilton, Inc., Communications and Information Technology Div./May 1979

ABSTRACT:

This report presents results of an analysis conducted to determine specification requirements for a common family of AUTODIN terminals. It defines a set of standard terminal functions, describes a set of terminal categories and identifies which functions in each category must be defined further, and specified to ensure consistency with the Integrated AUTODIN System Architecture.

APPLICABILITY: Task 4 (Interface Development Resource)

WCAN, PHASE II

LOCATION CODE A- 10 ____

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☒ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Alert Message Processing Software Specification for AUTODIN

AUTHOR/AGENCY/DATE: DCA, 4 December 1978

ABSTRACT:

This specification addresses DCA requirements to modify AUTODIN software to accept and process a new type of GENSER community input, known as ALERT message. Included in the specification are the concept of operation, ASC table requirements, command requirements, incoming message processing requirements and output message processing.

APPLICABILITY: Task 3.3 (WWMCCS Interface) and Task 5 (Preferred Interface Procedures)

WCAN, PHASE II

LOCATION CODE A-11

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☒ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Integrated AUTODIN System (IAS). Mid-Term Architecture Definition/AD A-071 671

AUTHOR/AGENCY/DATE: Messina, A., Landis, W., Poulos, J., Dewey, R., Letner, R./Booz-Allen and Hamilton, Inc./February 1979.

ABSTRACT:

This report presents the results of the IAS Architecture definition process for the mid-term (1984-1988). The mid-term definition process was directed toward the definition of an overall top-down system architecture and the definition of new system elements required to support this architecture.

APPLICABILITY: Task 2 (Existing Systems), Task 4 (Interface Development Resource)

APPENDIX B

WWMCCS ABSTRACTS

WCAN, PHASE II

LOCATION CODE B-01

ANNOTATED BIBLIOGRAPHY

SEGMENT: [X] WWMCCS [ ] WCAN [ ] AUTODIN [ ] OTHERS _____

TITLE/PUBLICATION NO.: WWMCCS Five Year Plan, FY1982-86, TOP SECRET
WWMCCS Five Year Plan, FY1981-85, Vol III, Annex 10 WCAN, SECRET

AUTHOR/AGENCY/DATE: DCA/WSE, JACS-863-79, November 1979

ABSTRACT:

The WWMCCS Five Year Plan (FYP) is a follow-on document of the WWMCCS Transition Plan, dated June 1977. The WWMCCS FYP is written to satisfy the DoD Plan, Program and Budget System (PPBS) requirements. In this sense it has more coherent and specific contents than the Transition Plan. This particular edition is the second version of the WWMCCS FYP. In this Plan (FY 82), the deficiencies in WWMCCS currently projected for this period are identified by assessing the ability of the WWMCCS to support four military posture level, i.e., day-to-day, crisis operation, theater operation, and strategic nuclear operation. Annex 10 of this Five Year Plan contains objective and scope of the WCAN, background, system characteristics, acquisition/implementation, dependencies/risks of the system, evaluation, and conclusions/recommendations.

APPLICABILITY: Task 3.1 (Performance Requirements), Task 3.3 (WWMCCS Interface) and Task 4 (Interface Development Resource)

WCAN, PHASE II

LOCATION CODE B-02

ANNOTATED BIBLIOGRAPHY

SEGMENT: [x] WWMCCS [ ] WCAN [ ] AUTODIN [ ] OTHERS _____

TITLE/PUBLICATION NO.: WWMCCS Current System Description 1978

AUTHOR/AGENCY/DATE: WSEO, SECRET

ABSTRACT:

To provide a comprehensive technical description of the existing WWMCCS for the use as a basic source document for system and subsystem engineering analyses in support of programmatic decision. Vol V (Communications Functional Areas) contains the description of 15 major communication systems.

APPLICABILITY: Task 3.2 (Communication Systems Selection)

WCAN, PHASE II

LOCATION CODE B-03

ANNOTATED BIBLIOGRAPHY

SEGMENT: [x] WWMCCS [ ] WCAN [ ] AUTODIN [ ] OTHERS _____

TITLE/PUBLICATION NO.: WWMCCS Interim Standard ADP/Communications Guide/ AD-B026 379L

AUTHOR/AGENCY/DATE: Sherman, Wayne/December 1977

ABSTRACT:

This document contains specifications and rules to be followed when interconnecting WWMCCS ADP systems and communications facilities. Sections will be added as additional information becomes available. It is intended to supplement existing DoD publications.

APPLICABILITY: Subtask 3.1 (WWMCCS Requirements), Subtask 3.6 (Interface Procedures), Task 4 (Interface Resources)

WCAN, PHASE II

LOCATION CODE B-04

ANNOTATED BIBLIOGRAPHY

SEGMENT: [X] WWMCCS [ ] WCAN [ ] AUTODIN [ ] OTHERS _____

TITLE/PUBLICATION NO.: Worldwide Crisis Alerting Capability WWMCCS Transition Plan (U) Vol. II Appendix G.

AUTHOR/AGENCY/DATE: WSEO, Annex G, June 1977, SECRET

ABSTRACT:

The WWMCCS Transition Plan is the first planning document that WSEO produced to elaborate and extend various WWMCCS selected architectures into twin-phased programs. It addresses operational and technical performance goals, DoD program management responsibilities, cost/schedule, and problem/risk. It contains nine annexes, one of which is concerned with WCAN.

APPLICABILITY: Task 3.1 (Requirements Review), Task 3.3 (WWMCCS Interface), Task 3.4 (Overall Performance Determination), and Task 6 (Implementation Concepts)

APPENDIX C

WCAN ABSTRACTS

WCAN, PHASE II

LOCATION CODE C-01

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☒ WCAN ☐ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: WCAN, Phase I, System Spec (U)

AUTHOR/AGENCY/DATE: DCA Code 400 Memo, 16 Oct 1978, CONFIDENTIAL

ABSTRACT:

This specification contains necessary information to develop WCAN Phase I (Military Origination) System. Included in this spec are system function descriptions (report entry, report collection, message routing, message delivery, and acknowledgement/query-response), mission statement, interface definition, characteristics and others.

APPLICABILITY: Task 3.1 (Requirement Review), Task 3.2 (Comm Systems Selection), Task 3.3 (WWMCCS Interface), Task 3.4 (Overall Performance Determination), Task 5 (Preferred Interface Procedures) and Task 6 (Implementation Concepts)

WCAN, PHASE II

LOCATION CODE C-02

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☒ WCAN ☐ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: MEP for WCAN

AUTHOR/AGENCY/DATE: DCA Code 400, 1 Sept 1979, CONFIDENTIAL

ABSTRACT:

The purpose of this document is to define the scope of the WWMCCS Worldwide Crisis Alerting Network (WCAN) project, to identify responsibilities of participating organizations, to promulgate engineering and implementation guidance and to describe management relationships.

This project provides an improved means for alerting theater and national level military commands that a crisis situation is imminent or in progress through modification of the AUTODIN systems.

APPLICABILITY: Task 3 (Assessment of WWMCCS Comm Systems) and Task 4 (Interface Development Resources)

WCAN, PHASE II

LOCATION CODE C-03

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☒ WCAN ☐ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Joint Reporting Structure (U)

AUTHOR/AGENCY/DATE: JCS Pub 6, 1 July 1976, FOR OFFICIAL USE ONLY

ABSTRACT:

Vol, II, Part 2, Chapter 4 (Joint Reports/Operational Status Reports) This chapter describes the OPREP-3 (Event/Incident Report) of the Joint Reporting Structure. Included in this chapter are the purpose, "submitted by," "submitted to," "How submitted," report indicator, specific reporting instructions, report contents, and sample reports.

APPLICABILITY: Task 3.3 (WWMCCS Interface) and Task 6 (Implementation Concepts)

WCAN, PHASE II

LOCATION CODE C-04

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☒ WCAN ☐ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Joint Operation Planning System, Vol. IV (Crisis Action System)

AUTHOR/AGENCY/DATE: JCS, SM-139-76

ABSTRACT:

This document contains guidance and procedures for the conduct of joint planning for the use of military forces during crisis. It describes the concepts underlying crisis action system (CAS) procedures. In Annex A, crisis reportings procedures are prescribed in terms of various OPREP-3 PINNACLE formats.

APPLICABILITY: Task 3.3 (Development of WWMCCS Interface)

WCAN, PHASE II

LOCATION CODE C-05

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☒ WCAN ☐ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Handbook of Standard Operating Procedures for the Reporting of Critical Information

AUTHOR/AGENCY/DATE: NSA, 15 April 1976, CONFIDENTIAL

ABSTRACT:

This handbook prescribes the operating procedures and practices of CRITIC messages. Included in this document are the origination procedure, the follow-up procedure, sample messages and others.

APPLICABILITY: Task 3.3 (Development of WWMCCS Interface)

WCAN, PHASE II

LOCATION CODE C-06

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☒ WCAN ☐ AUTODIN ☐ OTHERS _____

TITLE/PUBLICATION NO.: Critical Information Message Preparation and Communication Procedures

AUTHOR/AGENCY/DATE: JCS, Memorandum of Policy #125, 16 May 1977, CONFIDENTIAL

ABSTRACT:

This memorandum contains policy information regarding CRITIC messages. This is the 6th revision. Included in the memo are a brief description of CRITIC messages, its communications security and communications handling procedures.

APPLICABILITY: Task 3.3 (Development of WWMCCS Interface)

APPENDIX D

AIRLINES ABSTRACTS

WCAN, PHASE II

LOCATION CODE D-01

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS AIRLINES

TITLE/PUBLICATION NO.: Book of Official C.A.B. Airline Route Maps and Airport-to-Airport Mileages--27th Edition

AUTHOR/AGENCY/DATE: Airline Tariff Publishers, Inc. from Information Compiled by Civil Aeronautics Board/March 1978

ABSTRACT:

The Book of Official C.A.B. Airline Route Maps and Airport-to-Airport Mileages prepared as of December 31, 1977, with exceptions, and consisting of six parts, represents the twenty-seventh edition of this publication.

Part I consists of maps showing the routes, as certificated, of all carriers holding certificates of public convenience and necessity - domestic, international and overseas together with the terms, conditions, and limitations imposed by the Board in the conduct of the service authorized and all existing orders affecting service. All route maps are arranged in alphabetical order without regard to whether the routes are domestic or international.

Part II consists of information showing supplemental air carriers holding certificates and the services each is authorized to perform and the areas covered by the authority.

Part III consists of those carriers which have been granted Section 418 (all-cargo) certificates.

Part IV consists of the city, state, airport name, airport 3-letter code identifier, and the latitutde and longitude of the airport coordinates which are used to compute C.A.B. official mileages. The airports listed are those used by the U.S. Certificated air carriers in the operation of their domestic and international routes as authorized by the Board.

Part V consists of Alaskan nonstop mileages arranged in alphabetical order.

Part VI consists of Alaskan nonstop mileages arranged in alphabetical order.

APPLICABILITY: Task 2 (Existing Systems), Subtask 3.3 (Routing Analysis)

WCAN, PHASE II

LOCATION CODE D-02

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS AIRLINES

TITLE/PUBLICATION NO.: Air-Ground Radiotelephone Stations Domestic VHF Networks

AUTHOR/AGENCY/DATE: Aeronautical Radio, Inc./February 1980

ABSTRACT:

This publication contains a series of charts showing the ARINC Air-Ground VHF Radiotelephone Stations that are arranged as networks and operate 24 hours a day, seven days per week to satisfy the operational control communications requirements of the airlines and other organizations.

Each network is composed of favorably sited, unattended, remotely controlled VHF stations (transmitters and receivers), which are linked together by telephone lines extending from one or more ARINC Communication Centers. All network stations are interconnected so that all transmitters on a particular network can be activated simultaneously on a common frequency by the ARINC Communication Center(s) that control that network.

The VHF Networks operate on frequency assignments from the 128.85 to 132.0 megahertz band. The frequency assignments are staggered so that adjacent networks do not cause interference to one another.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE D-03

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS AIRLINES

TITLE/PUBLICATION NO.: Air-Ground Radiotelephone Stations International Service

AUTHOR/AGENCY/DATE: Aeronautical Radio, Inc./March 1979

ABSTRACT:

This publication lists the ARINC Air-Ground Radiotelephone Stations operated continuously on international aeronautical enroute frequencies to provide both air traffic and operational control communications for aircraft operating in international airspace for which the United States of America has assumed responsibilities under the ICAO Convention.

APPLICABILITY: Task 2 (Existing Systems), Subtask 3.4 (Interface Requirements)

WCAN, PHASE II

LOCATION CODE D- 04

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS AIRLINES

TITLE/PUBLICATION NO.: FBI Connections During Aviation Security Incidents/ ARINC Interoffice memorandum to Area Managers

AUTHOR/AGENCY/DATE: Manager-Air/Ground Operations/January 7, 1980

ABSTRACT:

This memoramdum (as amended on 1/24/80) documents detailed procedures to be followed by ARINC operators in the event of an Aviation Security Incident. In particular, it documents an agreement between ATA, ARINC, FAA, FBI, and AIRLINES as to acceptable procedures.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE D- 05

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS AIRLINES

TITLE/PUBLICATION NO.: Description of Service and Operating Procedures - Air/Ground Operations

AUTHOR/AGENCY/DATE: Aeronautical Radio, Inc./January 1979

ABSTRACT:

This booklet is intended to provide procedures and operating instructions for aircraft operator flight crews and ground personnel concerning the ARINC Central Office Dispatch Drop (CODD), HF SSB Long Distance Operational Control Facility (LDOCF) and Selective Calling System (SELCAL).

The "CODD" service is designed to provide direct voice communications between flight crews and their company operational offices via the Radiotelephone Frequencies controlled from ARINC Communication Centers using phone patch techniques. The Selective Calling System known as "SELCAL" replaces ground to air voice calling by the use of coded tones transmitted to the aircraft over radiotelephone channels.

APPLICABILITY: Task 2 (Existing Systems), Subtask 3.4 (Interface Requirements)

APPENDIX E

MARITIME ABSTRACTS

WCAN, PHASE II

LOCATION CODE E-01

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: Merchant Fleet Forecast of Vessels in U.S.-Foreign Trade

AUTHOR/AGENCY/DATE: Temple, Barker and Sloane, Inc./May 1978

ABSTRACT:

This study, conducted under the direction of Marad, presents a forecast of fleets serving the U.S. foreign trade. Using trade and vessel data bases and computer programs, a fleet forecast has been prepared, in increments of 5 years from 1980 to 2000, containing the number, size, and design characteristics of 9 vessel types (general cargo ships, partial containerships, full containerships, barge carriers, neobulk carriers, dry bulk carriers, combination carriers, LNG carriers, and tankers) serving U.S. foreign commerce on the 4 coasts of the U.S. (Atlantic, Gulf, Pacific, and Great Lakes). These forecasting procedures were used along with a cargo forecast supplied by Marad of 3-digit commodity imports and exports (Schedule A and B Commodity Subgroups) by trade route over the forecast time period. The foreign trade considered includes military and non-military cargo shipped under the Foreign Assistance Act and government financed cargo (P.L. 480) but not military cargos for the U.S. Armed Forces or commerce moving within the Great Lakes.

APPLICABILITY: Task 2 (Existing Systems), Subtasks 3.3 and 3.4 (Subscriber Systems)

WCAN, PHASE II

LOCATION CODE E-02

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: U.S. Oceanborne Foreign Trade Routes
GPO-003-007-00085-5

AUTHOR/AGENCY/DATE: Maritime Administration/March 1978

ABSTRACT:

This is the first edition of U.S. Oceanborne Foreign Trade Routes and is planned to be an annual publication designed to replace and expand upon the former Essential U.S. Foreign Trade Routes series. It presents detailed information on cargoes moving on U.S. foreign waterborne trade routes both in U.S.-flag and foreign-flag vessels. Part I is a narrative analysis of transportation patterns, trends, and commodity flows. Parts II and III contain commodity flow information by type of service (liner, tanker, and non-liner) and trade route. For each trade route, a map showing geographical area of coverage is included along with commodity data by type of service for 1975-76. Part II shows essential trade routes and Part III, remaining trade routes. No distinction is made for cargoes moved by landbridge or mini-bridge methods. Any cargo which originates in one country, is transhipped to another, and loaded on a vessel bound for the U.S. appears as moving from country where loaded to the U.S. The same holds true for exports from the U.S. The Bureau of the Census is the primary source for the data.

APPLICABILITY: Subtask 3.3 (Coverage and Routing Analysis)

WCAN, PHASE II

LOCATION CODE E-03

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: Vessel Inventory Report

AUTHOR/AGENCY/DATE: U.S. Dept. of Commerce, Maritime Administration/ April 1979

ABSTRACT:

The Vessel Inventory Report is issued semi-annually and contains information on all United States registered oceangoing merchant ships of 1,000 gross tons and over.

This report is in five parts:

Part I contains an alphabetical listing by vessel name of all merchant ships in the United States merchant fleets, whether privately owned or Maritime Administration-owned, showing each vessel's type, owner or operator, design type, and deadweight tonnage.

Part II provides an alphabetical listing by owner or operator, together with their respective vessels, of all merchant ships in the United States fleet, whether privately owned or Maritime Administration-owned, showing each vessel's type, design type, and deadweight tonnage, and also showing the total number of vessels for each owner/operator.

Part III lists Reserve Fleet Sites maintained by the Maritime Administration and merchant and military vessels in lay-up at each site, with the design type summaries for individual sites and for the Reserve Fleet as a whole.

Part IV lists military vessels currently in the National Defense Reserve Fleet by name, type, reserve fleet, site, and design type.

Part V lists military and privately owned vessels currently in custody of the National Defense Reserve Fleet by name, type, reserve fleet site, and design type.

APPLICABILITY: Task 2 (Subscriber Systems)

WCAN, PHASE II

LOCATION CODE E-04

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: Merchant Fleets of the World

AUTHOR/AGENCY/DATE: U.S. Dept. of Commerce, Maritime Administration/ January 1979

ABSTRACT:

This publication is a listing of oceangoing steam and motor ships of 1,000 gross tons and over as of December 31, 1977. Particular emphasis is given to the twelve largest merchant fleets and lists nations acquiring national maritime fleets since 1946.

APPLICABILITY: Task 2 (Subscriber Systems)

WCAN, PHASE II

LOCATION CODE E-05

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: A Production Ship Terminal for the Marisat System/13 159505

AUTHOR/AGENCY/DATE: Kelly, T. J./ Radio Technical Commission for Marine Services/April 1976

ABSTRACT:

Previous papers by the author given at RTCM Assemblies have dealt with design problems and solutions related to a ship terminal for use in the Marisat System. This paper describes the final product which has been in production for one year and is currently installed on a number of merchant ships. Installation problems are discussed. The Atlantic Marisat Satellite was launched on 19 February 1976 and scheduled for commercial operation only a few weeks prior to the 1976 RTCM Assembly. The experience gained during the test phase and the few weeks of commercial operation using the Atlanta based ship terminal are described.

Symposium on Maritime Telecommunication Electronics held April 26-28, 1976 in San Diego, California.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE E-06

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: Essential United States Foreign Trade Routes

AUTHOR/AGENCY/DATE: U.S. Dept. of Commerce, Maritime Administration/ June 1975

ABSTRACT:

This document is a compilation of trade routes, trade areas, and services considered essential to the economy of the United States by the Dept. of Commerce. In addition, it provides commodity information, maps of routes/areas, a listing of U.S. Flag Operators serving U.S. essential foreign trade routes and some import/export statistics for the ten year period 1964-1973.

APPLICABILITY: Subtask 3.3 (Routing Analysis)

WCAN, PHASE II

LOCATION CODE E-07

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: A Ship Terminal for Use with the Marisat System/13 159504

AUTHOR/AGENCY/DATE: Williams, W. P./Radio Technical Commission for Marine Services/April 1976

ABSTRACT:

The paper describes a new ship satellite communication terminal currently under development for use with the Marisat System. The new terminal has been designed to make optimum use of the automatic features of the Marisat system. Extensive use is made of a microprocessor in the design both to handle the digital data and to provide control and operator interface. Almost all the operator interface is via the teleprinter keyboard and extensive use is made of interactive operator controls. This technique reduces the number of tediously repetitive operations which have to be remembered and thus reduces the chances of operator error. However,perhaps more important, this type of software control technique provides much greater flexibility when future changes or extensions of this system are being considered. Antenna steering is controlled via the microprocessor. It converts the operator inputs from the keyboard to appropriate servo control signals during initialization and then drives the step tracking and gyro azimuth control after initialization to provide automatic tracking of the satellite.

Symposium on Maritime Telecommunications Electronics held April 26-28, 1976 in San Diego, California.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE E-08

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: Listing of Installations of MARISAT Terminals Aboard Ships and Offshore Facilities "Marifacts" magazine

AUTHOR/AGENCY/DATE: Comsat General Corporation/December 1977

ABSTRACT:

Magazine published by the Office of Business Promotion/Market Services, Comsat General Corp., 950 L'Enfant Plaza, S.W., Washington, D. C. 20024, to provide information about MARISAT services. Beginning with December 1977 issue, and updated both aperiodically and annually in the December issue, provides listings, identification numbers, and related information on vessels equipped with Marisat Satellite System communications equipment.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE E 09

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: New UHF Autotune Communications System for Ships/13 158448

AUTHOR/AGENCY/DATE: Secord, A. H., Alden, A.W., Whittaker, J.A./Institute of Electrical and Electronics Engineers/March 1977

ABSTRACT:

A UHF radio system for ship-to-ship and ship-to-aircraft communications has been designed for the Canadian Armed Forces. It is automatically tunable to any of 7000 channels spaced at 25 KHz intervals from 25 MHz to 400 MHz. Each ship is capable of operating 9 simultaneous links in the simplex mode for plain speech, teletype, digital data or secure speech. This is accomplished using 9 transceivers on each ship feeding into separate multicoupler (bandpass filters) an antenna subsystems for the transmit and receive functions. New techniques of system construction allow the transmitters to operate on "adjacent" channels at frequency separations down to 600 K Hz and at the intermodulation frequencies of the same ship transmitters. Omnidirectional coverage to the radio horizon has been achieved by making the common transmit and common receive antennas of a "wrap-around" design.

IEEE Vehicular Technology Group Annual Conference, 27th, Orlando, Florida, March 16-18, 1977.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE E 10

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: Marisat--A Maritime Satellite Communications System/13 176850

AUTHOR/AGENCY/DATE: Lipke, D.W., Swearingen, D. W., Parker, J.F., Steinbrecher, E. E., Calvit, T.O., Dodel, H./ COMSAT/1977.

ABSTRACT:

This paper describes the communications technique and facilities used in the MARISAT system to provide services to commercial users. The commercial portion of the system has been designed to meet performance requirements for high-quality voice and data communications between shore-based subscribers and sea-going vessels as well as other maritime installations. The commercial system configuration is described, including the C-band shore stations, the C- and L-band repeaters in the satellites, and the L-band ship terminals which operate automatically. Modulation, access, and signaling techniques are discussed to explain how network control, centralized at the shore stations, provides rapid and automatic circuit connections. Signal characteristics, frequency plans, link budgets, and system communication capacity are also presented.

APPLICABILITY: Task 2 (Existing Systems)

LOCATION CODE E-11

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: Maritime Satellite Requirements and Utilization/ 13 174300

AUTHOR/AGENCY/DATE: La Rosa, R. M./Radio Technical Commission for Marine Services/April 1977

ABSTRACT:

The basic purpose of this paper is to identify the potential requirements for maritime satellite communication and position fixing as it relates to both present and future operational systems (e.g., MARISAT, INMARSAT, etc.). Particular emphasis is given to the need for position fixing and ship terminal equipment utilization in national water, as well as other major aspects. Present MARISAT operation and industry evaluation activities are briefly discussed, highlighting a few major programs and some of the potential benefit areas thus far generally identified by the users of MARISAT. A comparison is made between satellite communication and the existing MF/HF system, including direct-printing radio telegraph (Marine radio telex). From various standpoints, it appears that maritime satellite systems are more desirable than conventional (non-telex) Marine telegraph/telephone. In addition, the improved performance, capability and potential of satellites could out weigh the slightly lower annual traffic and equipment cost for HF Marine telex.

Symposium Papers presented at the Radio Technical Commission for Marine Services Assembly Meeting, April 18-21, 1977.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE E 12

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: An Inexpensive Synchronous Communication Satellite Terminal/13 178699

AUTHOR/AGENCY/DATE: Turner, S./Naval Underwater Systems Center/April 1977

ABSTRACT:

Describes in plain language the assembly of an inexpensive ($700 to $1000) Shipboard terminal. The terminal was assembled from "off the shelf" radio components and provides high quality voice and digital data transmissions. A compass with electrical output, connected to the rotor, keeps the antenna trained toward the satellite regardless of ship direction. The antenna pattern is so wide, no rotor is needed to account for other ship motion.

Presented at RTCM Assembly Meeting, April 18-21, 1977, Valley Forge, Pennsylvania.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE E 13

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: The New Great Lakes Lakes-Wide All-VHF Automated Marine Telephone System/13 178702

AUTHOR/AGENCY/DATE: Herrick, R.H./Radio Technical Commission for Marine Services/April 1977

ABSTRACT:

This paper presents a brief description of the Great Lakes Lakes-Wide All-VHF Automated Marine Telephone System (the System) and proceeds to describe four of the System's unique problems and the answers developed. The problems considered herein are concerned with the especially serious effects on automated services of co-channel interference due to ducting phenomena; with direct dialing from ships, particularly as to use of the proper shore station and selection of the appropriate working channel; with automated handling of ship reports to their Dispatchers and the National Weather Service; and with direct-dialing guidance to land callers to obviate the need for foreknowledge as to ship location.

Presented at RTCM Assembly Meeting, April 18-21, 1977, Valley Forge, Pennsylvania.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE E-14

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: Feasibility Study of an International Data Communications System (IDCS) for the U.S. Merchant Shipping Industry/1320-01-1-1563

AUTHOR/AGENCY/DATE: Kolb, W./American Institute of Merchant Shipping/ December 1976

ABSTRACT:

ARINC Research Corporation conducted an International Data Communications Systems (IDCS) economic, operational, organizational, and regulatory feasibility study under subcontract to the American Institute of Merchant Shipping (AIMS). This report documents the results of the study and outlines the activities necessary to implement a prototype system to NorthernEurope and the Mediterranean.

The major goals of the study were (1) to determine the industry's present data communications costs and requirements, (2) to develop alternative data communications system concepts to meet these requirements, (3) to analyze the domestic and foreign regulatory constraints, and (4) to select a preferred system concept and develop a prototype system implementation plan.

A number of alternative candidate concepts were developed which, to varying degrees, satisfied the requirements outlined above. Each of these candidates was evaluated in terms of cost, potential savings, expandability, implementation schedule, and performance. In addition to these criteria, a number of regulatory issues associated with each alternative had to be examined, as well as the structure and function of an industry entity that would be required in the operation of a shared system.

As a result of the analyses performed, a preferred system concept was selected that provided wide geographic coverage to selected sites in Europe, Asia, and South America. The preferred system is basically an industry-owned time-sharing system comprising two major elements: (1) a central minicomputer operated and maintained by the industry, and (2) an international data network provided by a spcialized time-sharing communications carrier. The steamship companies' domestic and foreign offices would access the system by using private lines or a local telephone number, depending on the proximity of the communications carrier's access points.

APPLICABILITY: Subtask 3.3 (System Routing and Coverage) and Task 4 (Interface Development Resource)

WCAN, PHASE II

LOCATION CODE E 15

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: An Analysis of the Maritime High-Frequency Single-Sideband Voice Communication System for the North Atlantic and South Pacific Vol. I, II, III/ PC E09, PB-265 849-SET (NTIS).

AUTHOR/AGENCY/DATE: Adams, J.E. and Kissick, W.A./USCG, Institute for Telecommunications Sciences/March 1977.

ABSTRACT:

The report is a frequency trade-off study for both the North Atlantic region and the South Pacific region for the world-wide HF voice communication system. A complement of five shore stations for the Atlantic region, six for the Pacific region, and six frequencies (4, 6, 8, 12, 16, and 22 MHz) are considered. Maps of circuit reliabilities and tables of areas of coverage are produced for two each of seasonal, diurnal, and solar activity conditions. Based on these analyses, the "best" groups of two, three, and four frequencies are identified. The Atlantic region and the Pacific region are considered independently.

APPLICABILITY: Subtask 3.3 (Routing and Coverage Analysis)

LOCATION CODE E-16

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: Simplex TOR STB 750 for World-Wide Radio Telegraph Communication/13 178995
Philips Telecommunications Review Vol. 35 No. 4, pp. 186-199.

AUTHOR/AGENCY/DATE: Azimullah, R.; Deraemaeker, R./December 1977.

ABSTRACT:

TOR (Teleprinting Over Radio) enables ships to establish dependable radio telegraph connections with other ships as well as with any telex subscriber in the world through the international telex network. Succeeding the STB 75 error detecting and correcting equipment, which pioneered this field of maritime communication since 1970, is the new STB 750, based on modern technology and fulfilling the latest CCIR recommendations. System properties, the design and operational details are described.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE E.17

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS MARITIME

TITLE/PUBLICATION NO.: Study of Alerting and Locating Techniques and Their Impact (SALTTI)/AD A052003

AUTHOR/AGENCY/DATE: Computer Sciences Corporation/September 1975

ABSTRACT:

This report examines the cost-benefit ratios of electronic alerting and locating configurations considered by the Study of Alerting and Locating Techniques and Their Impact (SALTTI) for the coastal area. These analyses considered approximately 108 candidate systems under voluntary or mandatory carriage, with or without SAR impact, and by year through ten years. The geographical area includes the Great Lakes and coastal are extending 20 miles off shore, and a user population of commercial, fishing, and recreational boats.

APPLICABILITY: Task 2 (Existing Systems)

APPENDIX F

INTERNATIONAL ABSTRACTS

WCAN, PHASE II

LOCATION CODE E-01

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS INTERNATIONAL

TITLE/PUBLICATION NO.: Air Navigation Plan, Tenth Edition/Doc 8755/10

AUTHOR/AGENCY/DATE: ICAO/September 1977

ABSTRACT:

Sets forth in detail the facilities, services, and procedures required for international air navigation within one of nine regional areas. Technical data covers aerodromes, air traffic services, communications, meteorology, search and rescue, and aeronautical information services.

APPLICABILITY: Subtask 3.3 (Coverage and Routing Analysis), Task 4 (Interface Development Resource)

WCAN, PHASE II

LOCATION CODE F-02

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS INTERNATIONAL

TITLE/PUBLICATION NO.: International Standards & Recommended Practices -- Aeronautical Telecommunications -- Annex 10 to the Convention of International Civil Aviation, Vol. I, 3rd Edition

AUTHOR/AGENCY/DATE: ICAO/July 1972

ABSTRACT:

Part I describes equipment and systems and provides specifications and standards for each. Part II contains frequency assignments and standards for their use. Volume II describes International Communications procedures.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE F-03

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS INTERNATIONAL

TITLE/PUBLICATION NO.: DoD Flight Information Publication (En Route) Supplement

AUTHOR/AGENCY/DATE: Defense Mapping Agency, Aerospace Center, every four weeks

ABSTRACT:

Provides updating information (every four weeks) in reference to facilities, regulations, restrictions, and procedures in specific international regions to alert military air users to recent changes in destination areas.

Prepared for U.S. military use.

APPLICABILITY: Task 2 (Existing Systems)

LOCATION CODE F-04

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS International

TITLE/PUBLICATION NO.: SITA: An Essential Communication System for the Airline Industry
"Airline Executive" magazine, pp. 40-41

AUTHOR/AGENCY/DATE: Vandyk, Anthony/August 1978

ABSTRACT:

Article describes international telecommunications cooperative organization and functions. Owned and used by 220 airlines, SITA is an acronymn for the French name, Societe Internationale de Telecommunications Aeronautiques. SITA is Paris based but registered in Belgium.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE F-05

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS International

TITLE/PUBLICATION NO.: International Aeradio Serves Airlines Throughout the World
"Airline Executive" magazine, pp. 163-4.

AUTHOR/AGENCY/DATE: Vandyk, Anthony/ April 1979

ABSTRACT:

Article describes organization and services of International Aeradio (IAL Group). Includes identification of 30 airline shareholder ownerships and describes current activities.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE F 06

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS International

TITLE/PUBLICATION NO.: Developments in Maritime Satellite Communications/13 177237
Post Office Electrical Engineer's Journal Vol. 70, Part 3, pp. 154-159.

AUTHOR/AGENCY/DATE: Branch, P. N., Hoskyns, R. F./October 1977

ABSTRACT:

The range of communication services available to commercial shipping has recently been extended by the introduction of the USA MARISAT system and, in 1978, the European MAROTS satellite is to be launched. Experience gained from the design, development and operation of the MARISAT and MAROTS systems will be used in the planning and design of an international maritime satellite system to be known as INMARSAT. This article described the technical and operational aspects of the progress being made in the field of maritime mobile-satellite communications.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE F-07

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS INTERNATIONAL

TITLE/PUBLICATION NO.: Progress Report on the Development of an Integrated Crisis Warning System/AD-A039 393

AUTHOR/AGENCY/DATE: Andriole, Stephen J./Decisions and Designs, Inc./ December 1976.

ABSTRACT:

This report summarizes the progress toward the development of an integrated crisis warning system. During the first phase of this contract year, a fully integrated system comprised of (1) quantitative military, political, and economic crisis indicators; (2) quantitative indicators of U.S. military, political, and economic interests abroad; (3) a unified multi-method forecasting capability; and (4) a computer base was developed. The range of crisis indicators found within the integrated system includes internal (domestic) and external (international and global) static and dynamic military, political, and economic indicators. The system is also comprised of quantitative indicators of U. S. national interests. The unified multi-method forecasting capability requires the system to generate different kinds of forecasts or warnings via different methods for different events and conditions. The system's computer base must be capable of efficiently storing, retrieving, processing, and displaying large quantities of information. An integrated system should enable a user to generate forecasts or warnings on regional, country-by-country, or national interest bases. It should also permit more specific, country-by-country scanning, as well as examination of specific indicators in the context of (U).

APPLICABILITY: Task 2 (Existing Systems), Task 4 (Interface Development Resource)

WCAN, PHASE II

LOCATION CODE F 08

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS INTERNATIONAL

TITLE/PUBLICATION NO.: MARITEX-Automated Maritime Telex on HF/13 174296

Radio Technical Commission for Marine Services Vol. 1 Paper 104-77/DO-96, 1977, pp 1-4.

AUTHOR/AGENCY/DATE: Lundberg, O./Swedish Telecommunication Administration/ April 1977

ABSTRACT:

The Swedish Telecommunications Administration is operating a system capable of automatic handling of teleprinter traffic on the HF bands. Radio transmission is based on the CCIR-specified simplex-ARQ. Ships participating in the system can be accessed from the international telex network as ordinary telex subscribers. The system operates normally in a store-and-forward mode. The coast station terminal uses a computer for traffic handling and control of radio receivers and transmitters. Optimum selection of frequency band and directional antennae is based on a stored propagation forecast and a knowledge of approximate positions of participating ships. Equipment operation on board is fully automatic and unattended. Transmission of messages from the ship is initiated through simple pushbutton operation. Traffic delay is such that 80-90% of all traffic from shore to ship is delivered inside 2 hours. The corresponding figure for manual morse is typically 30% with 2 hours. Installation and traffic costs are roughly 30-50% of the costs for satellite equipment. About one third of the Swedish ocean-going merchant fleet is already equipped with Maritex.

Symposium papers presented at the Radio Technical Commission for Marine Services Assembly Meeting, April 18-21, 1977.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE F-09

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS International

TITLE/PUBLICATION NO.: Automated Maritime Telephone System/13 182895, Japan Telecommunications Review Vol. 19 No. 4, pp. 304-312.

AUTHOR/AGENCY/DATE: Komura, M., Yokohura, A., Tsujimura, K./October 1977

ABSTRACT:

A system is presented which was developed for public use. Calls between ship and land subscribers, or between one ship and another, can be connected automatically by subscribers' dialing in the nationwide system. The new system uses the 250 MHz band radio frequencies and employs many technical features, such as automatic location registration, new signaling methods, etc. which are realized by the use of the D-10 electronic switching system. This system is scheduled to be put into commercial use in spring 1979. An outline of this system is described.

APPLICABILITY: Task 2 (Existing Systems)

APPENDIX G

NON-DoD GOVERNMENT ABSTRACTS

WCAN, PHASE II

LOCATION CODE G-01

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Airport Activity Statistics of Certificated Route Air Carriers/AD-A060 439

AUTHOR/AGENCY/DATE: ----/FAA/December 1977

ABSTRACT:

This report furnishes airport activity of the Certificated Route Air Carriers. Included in the data contained in Table 6 are passenger enplanements, tons of enplaned freight, express, and mail. Both scheduled and non-scheduled service, and domestic and international operations are included. These data are shown by airport and carriers. Table 7 included departures by airport, carrier and type of operation, and type of aircraft.

APPLICABILITY: Task 2 (Existing Systems), Subtask 3.3 (Routing and Coverage Analysis)

WCAN, PHASE II

LOCATION CODE G-02

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: A Study of the Communications Requirements for a 1985 to 2000 Operational Aeronautical Satellite System, Volume I - Atlantic Ocean Area/1307-01-1-1401

AUTHOR/AGENCY/DATE: Cornett, D.E.; Diehl, J.M.; Haspert, J.K.; Nardone, S.C./Telecommunications Systems Program/May 1975

ABSTRACT:

A study was conducted to determine the number of communications channels required by an operational aeronautical satellite system during the period 1985-2000. Seven alternative operating scenarios have been considered, and the communications channels required by each have been evaluated. The evaluation entailed (1) the characterization of present oceanic communications traffic, (2) the estimation of future communications traffic as an extension of present-day traffic, and (3) the generation of operating scenarios and the determination of the number of communications channels required. The effort concentrated on air-to-ground and ground-to-air communications and incorporated the views of major international air carriers. Channel requirements were based on the assumption that a single control point would be used to control the use of channels, and calculations excluded any spare channels for system backup, emergency alerts or dedicated continuous broadcast purposes. It was concluded that a maximum of six forward and nine return channels will accommodate the anticipated communications volume through the year 2000. Volume II, Pacific and Indian Ocean Areas, to be released approximately December 1975.

APPLICABILITY: Task 4 (Estimating Interface Resources)

WCAN, PHASE II

LOCATION CODE G-03

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Definition, Description and Interfaces of the FAA's Developmental Programs Vol. I (AD-A068 226) Vol. II (AD-A068 401)

AUTHOR/AGENCY/DATE: Keblawi, F.C./FAA/September 1978

ABSTRACT:

This report provides an overview of the evolution of the Air Traffic Control System facilities in the pre-1990 time period as major system improvements currently being developed by the FAA are implemented. The description was prepared to assist FAA managers with the technical planning for future air traffic control system. The description covers eight major domestic ATC facility classifications: En Route, Terminal Radar Approach Control (TRACON), Tower, ATC System Command Center, Flight Service Stations, Surveillance, Navigation, and Communications. The report provides a summary description of each improvement currently being planned, describes the information flow between ATC facilities to support the improvement, and provides tentative implementation dates for each improvement. More detailed information on each facility class is given in Volume II. An overall ATC system configuration is given in this volume to show the relationship of these facilities to each other once the improvements are in place. Some of the major assumptions involved in developing this overall configuration are cited.

APPLICABILITY: Task 2 (Existing Systems), Subtask 3.3 (Routing and Coverage Analysis)

WCAN, PHASE II

LOCATION CODE G-04

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Interim Helicopter Communication System Plan/ 1575-01-1-2008

AUTHOR/AGENCY/DATE: White, M. and Berry, T./Government and Commercial Systems/September 1979

ABSTRACT:

This report, submitted in accordance with the provisions of Contract DAAB07-78-6606 and interagency agreement DOT-FA78WAI-939, addresses the problem of communication with helicopters operating at low altitudes in the offshore environment. It is the culmination of the first phase of a two-phase study of helicopter communication.

ARINC Research Corporation wishes to acknowledge the contributions to this study made by the members of the Helicopter Safety Advisory Committee of the International Association of Drilling Contractors.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE G-05

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Definition of an Improved FAA Communications Management System - Task 2 Report/1354-11-2-1940

AUTHOR/AGENCY/DATE: Bolam, P. and Kolb, W./Government and Commercial Systems/June 1979

ABSTRACT:

This report presents the principal results of Task 2 of a five-task effort being performed by ARINC Research Corporation of the Federal Aviation Administration (FAA), Program Management Staff (ATF-4), under Contract DOT-FA78WA-4222. The Task 1 report, dated February 1979, provided a general description of current FAA communications management. The purpose of the entire study is to develop an improved communications management system for the FAA. The major activities of Task 2 have been to expand the description of current FAA communications management, identify strengths and weaknesses, document functional improvements and alternative organizational concepts, and recommend a preferred concept for improving communications management.

APPLICABILITY: Task 4 (Estimating Interface Development Resources)

WCAN, PHASE II

LOCATION CODE G-06

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Operational and Economic Benefits of an Improved FAA Communications Management System (Task 3 Report)

AUTHOR/AGENCY/DATE: Bolam, P. and Kolb W./GCSD/SASP/September 1979

ABSTRACT:

ARINC Research was contracted to analyze FAA communications management and provide recommendations leading to the development of an improved management system. An initial period devoted to our becoming familiar with the current communications management was followed by an analysis from which a series of recommendations for management improvements were developed. The results of this work were presented in previous progress reports. This report expands upon the recommendations with a discussion of current procedures, objectives and benefits of recommended changes, and possible implementation strategies.

The improvements are designed to be implemented within the present FAA organizational structure, but additional benefits may be possible through some realignment of functional responsibilities. The fourteen improvements are presented in this report as separate and distinct items for the sake of clarity and ease of review. However, there are mutual dependencies among them that significantly affect the attainment of the maximum potential benefits. This aspect must be considered when implementation decisions and strategies are addressed in Phase Four.

APPLICABILITY: Task 4 (Estimating Interface Development Resources)

WCAN, PHASE II

LOCATION CODE G-07

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Study of Automation of Message Handling Functions at Coast Guard Communications Centers, Communications Stations and Radio Stations/CSC/SD-78/3034

AUTHOR/AGENCY/DATE: Smiley, D.; Keene, G.; Kennedy, P./Computer Sciences Corporation/May 1978

ABSTRACT:

This study examines current Coast Guard message handling functions to (1) confirm the need for the application of communications automation techniques to such operations and (2) develop alternative approaches to accomplishing such automation. Information collected during surveys of four facilities is presented in detail then extrapolated to establish system-wide requirements. Several design options are described and evaluated for responsiveness and operational, technical, and cost benefits. Three configurations of the recommended alternative are proposed for installation in high, medium and low volume Communications Centers and a fourth, for Communication and Radio Stations.

The study identifies several administrative actions which must be accomplished preliminary to implementation of an automation program and, further, recommends a detailed analysis of system-wide operations to determine whether a major reconfiguration of the record traffic portion of the Coast Guard Communication System, to include consolidation of relay activity, would provide the basis for a more cost effective application of communications automation techniques.

APPLICABILITY: Task 2 (Existing Systems), Task 4 (Interface Development Resource)

WCAN, PHASE II

LOCATION CODE G-08

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Maritime Dynamic Traffic Generator Vol. I (AD-A012 221), Vol. II (AD-A012 222), Vol. III (AD-A012 498)

AUTHOR/AGENCY/DATE: MacKenzie, F.D./Transportation Systems Center/June 1975

ABSTRACT:

To determine the number of maritime vessels which are potential users of a satellite communications service and the required satellite coverage to provide this service, the weekly movements of 18,000 merchant vessels were recorded for the year 1972. The method of recording and the applications of the dynamic traffic generator is described in Volume 1: Summary Documentation. The processor program is designed to move these vessels along standard routes to their destination and keep statistical records of the ports visited, the five degree squares passed through and the occurence of casualties. Volume 2: Electronic Data Processing Program describes this processor. One of the most useful forms of the data output is a weekly plot, on a world map, of the average, daily vessel density per five degree square. This output is applicable to many related programs in the maritime area and is the subject of a Volume 3: Density Data on World Maps.

APPLICABILITY: Task 2(Existing Systems), Subtask 3.3 (Routing and Coverage Analysis)

WCAN, PHASE II

LOCATION CODE G 09

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERSNon DoD Gov't

TITLE/PUBLICATION NO.: Application of a Satellite Aided Search and Rescue System to the Marine Environment/13 178697

AUTHOR/AGENCY/DATE: Wilden, F.N. and Trudell, B.J./United States Coast Guard-NASA/April 1977.

ABSTRACT:

An Emergency Position Indicating Radio Beacon (EPIRB) has the capability of providing both an immediate alert and a homing signal to assist rescue forces in locating the site of the distress. To be effective an EPIRB signal must be detected. The satellite system proposed in this paper would be capable of detecting and locating EPIRBs operating at the 121.5 and 243 MHz, as well as improved/new EPIRBs operating on the 406 MHz frequency authorized for ground to satellite SAR use by the last World Administrative Radio Conference. The baseline concept envisions launching the search and rescue system as instruments on the NASA/NOAA and USAF operational weather satellites at approximately 482 nm in near polar orbits. The EPIRBs will transmit their signals to the orbiting spacecraft. The spacecraft will relay the signals in real time to an earth station which will detect the signal using phase lock techniques and process the Doppler information to determine position location. This data will then be relayed to the nearest rescue coordination center where the search and rescue forces will be alerted and deployed.

Presented at RTCM Assembly Meeting, April 18-21, 1977, Valley Forge, Pennsylvania.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE G-10

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Government Maritime Communications Study

AUTHOR/AGENCY/DATE: /Dept. of Transportation, U.S. Coast Guard/ 1972

ABSTRACT:

The following summary is based upon the findings of the study prepared by contractual assistance, and is provided in condensed form as a convenience. Where additional detail is desired, the complete report should be consulted.

Task I. A Description of the Present Government Maritime Communications System. Outlines existing regulatory provisions and describes present communication systems in operation by Departments, Bureaus, and Agencies.

Task II. A Description of the GMC System for the Period 1970-1980 in Detail and 1980-1990 in General. Examines trends affecting future maritime communications, predicts future communication requirements and technology, and evaluates presently planned capabilities to satisfy future requirements.

Task III. A Description of Alternatives in Government Maritime Communications. Examines alternatives in managerial and communications network approaches, and recommends action at both the Coast Guard and National levels.

APPLICABILITY: Task 2 (Existing Systems), Subtask 3.3 (System Coverage and Routing Analysis), Task 4 (Interface Development Resource)

WCAN, PHASE II

LOCATION CODE G-11

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Crisis Communications Requirements/AD-B000 128L

AUTHOR/AGENCY/DATE: Iber, W.R./NPGS/September 1974

ABSTRACT:

An overall look at the Air Force Combat Theater Communications Model and its capabilities to provide meaningful analysis of a Navy tactical communications scenario. Investigation of the compatability of model inputs for applications at the Task Force level. Development of a methodology to overcome scenario definition incongruities. Finally an evaluation as to the AFCTC Model's potential to serve Navy requirements for the analysis of tactical communications.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE G 12

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Predicted Reliabilities and Coverage Areas for HF Maritime Communications/13 174298

AUTHOR/AGENCY/DATE: Kissick, W. A./USCG/April 1977.

ABSTRACT:

Some techniques for determining the communication reliabilities and coverage areas for HF communications are presented in this paper. The prediction and data handling methods needed for an analysis are described. A study done for the U.S. Coast Guard then is presented to demonstrate the application of these methods to solve a particular problem. The objective of the Coast Guard work is to determine what combination of frequencies is needed to maximize coverage and reliability while using the least number of frequency bands. This study was done for two defined geographical regions: the North Atlantic and the South Pacific.

Symposium Papers presented at the Radio Technical Commission for Marine Services Assembly Meeting, April 18-21, 1977.

APPLICABILITY: Task 2 (Existing Systems), Subtask 3.3 (Coverage and Routing Analysis)

WCAN, PHASE II

LOCATION CODE G-13

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Who Can I Turn To--Dilemma of the Country Team/ AD-761 067

AUTHOR/AGENCY/DATE: Hayward, Barton M./January 1973

ABSTRACT:

The question of who is the point of contact in the Washington area for a country team overseas seems at first glance to be easily answered -- the country director. However, he can not always be responsive to its needs. The reasons for this situation are discussed. The present structure for coordination and how it evolved, the organization within the Department of State, the multiplicity of foreign affairs organizations and actors, the needs for planning, crisis operations, and the status and philosophy of the country director will impact on the ability of the country director to accomplish his mission. Until these matters are resolved the country director will continue to experience difficulty.

APPLICABILITY: Task 4 (Interface Development Resource)

WCAN, PHASE II

LOCATION CODE G-14

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Search and Rescue Methods and Equipment/ NTIS/PS-78/0539/3ST

AUTHOR/AGENCY/DATE: Kenton, E./National Technical Information Service/ June 1978.

ABSTRACT:

Reports dealing with search and rescue on land and sea are presented. The majority of the citations cover sea search and rescue, although much is applicable to land search and rescue. Studies are included on search and rescue planning, searching strategies, locating equipment, rescue beacons, communication devices, specialized aircraft and their components, as well as other rescue and searching equipment and techniques. Underwater rescue and survival are excluded. (This updated bibliography contains 196 abstracts, 30 of which are new entries to the previous edition.)

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE G-15

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS Non DoD Gov't

TITLE/PUBLICATION NO.: Maritime Communication Experiments and Search and Rescue Evaluation with the NASA ATS-6 Satellite, Volume 1, Summary. TSC-USCG-78-9-1, USCG-D-69-77-1.

AUTHOR/AGENCY/DATE: Engels, P.D., Duncombe, C.B., Foley, A.E., Gutwein, J.M., Kraemer, J.H./USCG/May 1978

ABSTRACT:

Maritime satellite communication experiments were conducted by this Center using the NASA Applications Technology Satellite-Number 6 (ATS-6) from September 1974 through April 1975. The objectives were: to acquire a base of satellite technology knowledge applicable to ship-satellite-shore system design; and to demonstrate, by means of coordination among several ships, aircraft, and ground/shore control centers, some operational uses of satellites for ATC and SAR applications. Volume 1 provides a brief description of the ATS-6 experiments along with a description of the shipboard terminal equipment used in the experiments. The ATS-6 satellite maritime technology experiments have produced data which will be used in preparing specifications of ship terminals for possible future operational satellite systems. Evaluations were made of a shipboard antenna design, various types of voice, data, and ranging modulations, and the effects of multipath reflections off the sea and the ship superstructure. The safety demonstration experiments are expected to aid in evaluating the effectiveness of satellite communications in maritime safety-of-life-at-sea applications. In these tests, the satellite-to-ship link was used in a typical search and rescue incident abong with the Emergency Position Indicating Radio Beacon Buoy which initiated the distress alert.

See also Volume 2, AD-A055442.

APPLICABILITY: Task 2 (Existing Systems)

APPENDIX H

OFFSHORE ABSTRACTS

WCAN, PHASE II

LOCATION CODE H-01

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS OFFSHORE

TITLE/PUBLICATION NO.: Changes Slight in Platform Count
"Offshore" magazine

AUTHOR/AGENCY/DATE: Pp. 112-118, January 1980

ABSTRACT:

Listing of location, ownership, capacity and status of worldwide offshore drilling rigs.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE H-02

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS OFFSHORE

TITLE/PUBLICATION NO.: Offshore Platforms and Mooring Terminals Under Construction and Planned
"Ocean Industry" magazine

AUTHOR/AGENCY/DATE: Vol. 14, No. 3, pp. 40-50A, March 1979

ABSTRACT:

Article provides listings of facilities under construction or planned for future construction.

APPLICABILITY: Task 2 (Existing Systems)

WCAN, PHASE II

LOCATION CODE H- 03

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS OFFSHORE

TITLE/PUBLICATION NO.: Communications Aid the Flow of North Sea Oil/ "Telecommunications" magazine

AUTHOR/AGENCY/DATE: Bedwell, C./B.P. Co. Ltd., London, U.K./May 1975

ABSTRACT:

Provides systems description of telecommunications available to North Sea Oil Field "towers" from control point at Dyce, Aberdeenshire, Scotland, U.K. System uses troposheric scatter techniques.

Prepared for International Offshore Technology Symposium, London, October 9, 1974.

APPLICABILITY: Task 2 (Existing Systems) H-4

WCAN, PHASE II

LOCATION CODE H-04

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS OFFSHORE

TITLE/PUBLICATION NO.: 1979-80 Directory of Marine Drilling Rigs
"Ocean Industry" magazine

AUTHOR/AGENCY/DATE: Vol. 14, No. 9 /September 1979

ABSTRACT:

Listing of marine drilling rigs--ownership, location, etc.

APPLICABILITY: Task 2 (Existing Systems)

APPENDIX J

NATO ABSTRACTS

WCAN, PHASE II

LOCATION CODE J-01

ANNOTATED BIBLIOGRAPHY

SEGMENT: ☐ WWMCCS ☐ WCAN ☐ AUTODIN ☒ OTHERS NATO

TITLE/PUBLICATION NO.: The Evolution of NICS (NATO Integrated Communications System)
"Signal" magazine, pp. 15-19

AUTHOR/AGENCY/DATE: Anderson, Sir John, KBE/NICSMA/April 1979

ABSTRACT:

The author reviews the evolution of NATO Communications over a fifteen year period. Text includes basic NICS concept, Stage One Implementation plan and development of architecture for NICS Stage II.

APPLICABILITY: Task 2 (Existing Systems)

APPENDIX K

DOCUMENTS ORDERED - NOT YET RECEIVED
(APPLICABILITY TO BE DETERMINED)

DOCUMENTS ORDERED

Number	Title	Agency	Date
AD-C018805	NICS Stage II Architecture, Satellite Comm.	SHAPE(NATO)	6/79
AD-C018806	NICS Stage II Architecture Study, Switching Facilities	SHAPE(NATO)	7/79
AD-C-14194	An Evolutionary Concept for the Enhancement of NICS Including Progressive Digitalization	SHAPE(NATO)	3/78
AD-C-14148	An Evaluation of the NATA Standard Message Text Formatting System (NSMTFS) Winter 77	SHAPE(NATO)	4/78
AD-C019339	The Recommended NICS Stage II Architecture	SHAPE(NATO)	9/79
AD-C019340	NICS Stage II Architecture Study Numbering Routing, and Signalling	SHAPE(NATO)	9/79
AD-C016512	Design Methodology for a Minimum-Cost Nodal Network for NICS Stage II	SHAPE(NATO)	11/78
AD-C019721	Transmission Planning for NICS Stage II	SHAPE(NATO)	9/79
AD-B0321852	International Maritime Satellite Communication Organization	FTD,Wright-Patterson, AFB Ohio	9/77
AD-C0154166	Descriptions of MEECN and MEECN Supporting Systems	CCTC	4/78
AD-C0179206	National Military Command System (NMCS) Description	CCTC	10/78
AD-B0297706	Commercial Communications Satellite for Department of Defense Requirements	SCSC/EDCC-Maxwell AFB, Alabama	5/78
AD-C0151366	Air-to-Air and Air-to-Ground VLF/LF Coverage Contour Charts for Selected MEECN Components	CCTC	6/78
AD-C0189146	MEECN ERCS Trajectory and Coverage Envelope Analysis	CCTC	5/79
AD-B0392456	Transition Strategies for an Intermediate WWMCCS Communications Interface Subsystem	DCA/RAND	4/79
AD-B0429426	WWMCCS ADP Standard Telecommunications Engineering Practices	DCA	11/79
AD-B0157056	Search and Rescue Communications Global Rescue Alarm Net (GRAN)	NATC-PAX	11/76
AD-B0353326	Marine Emergency Radio & Telephone Radio Stations (Selected Chapters)	FTD,Wright-Patterson AFB, Ohio	1/79
AD-B0116366	Communications: The Key Element in Protection of Offshore Energy Assets	ACSC/EDCC-Maxwell AFB,AL	6/76
Unknown	Message Relay Procedures	SHAPE/NATO	-

AD-A098 641 ARINC RESEARCH CORP ANNAPOLIS MD F/G 17/2
WORLDWIDE CRISIS ALERTING NETWORK, PHASE II. TASK 1. REVIEW OF --ETC(U)
MAR 80 H P HIMPLER, J F HOLMES DCA100-80-C-0010
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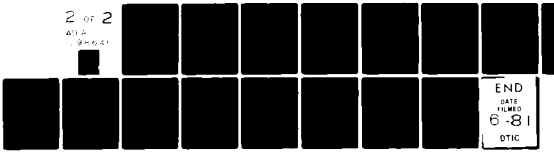
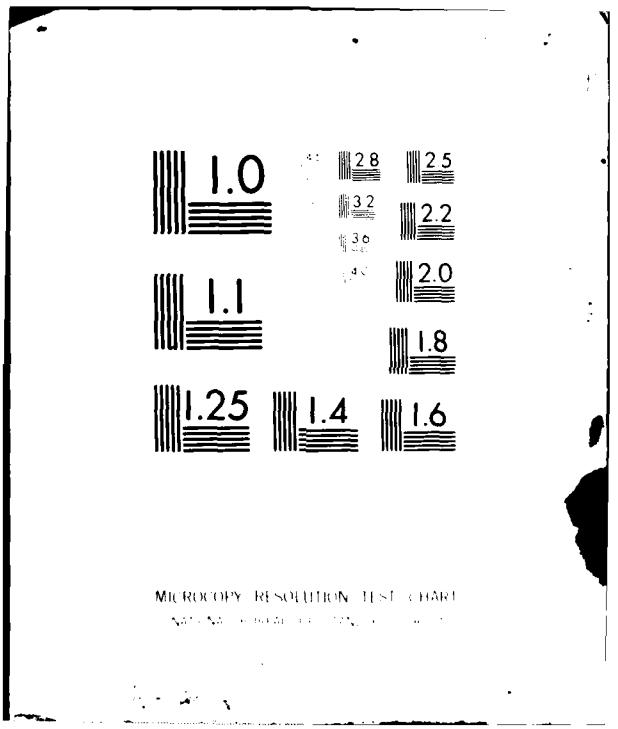
2 OF 2

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MICROCOPY RESOLUTION TEST CHART

APPENDIX L

COPIES OF DDC INFORMATION REQUESTS USED IN LITERATURE SEARCH

INFORMATION REQUEST

R&T WORK UNIT SUMMARY/REPORT BIBLIOGRAPHY/
R&D PROGRAM PLANNING SUMMARY

NOTE: No carbon is required in the completion of this form since the paper has been specially treated.
SEE INSTRUCTIONS ON REVERSE

FOR DDC USE ONLY
REPORT CONTROL NUMBER
RB NUMBER

1. FROM *(Complete name and address)*
ARINC Research Corp.
2551 Riva Road
Annapolis, MD 21401

2. DoD USER CODE
01385

4. CONTRACT/GRANT/PROGRAM NUMBER
N00014-79-C-6481

3. TYPE OF SEARCH REQUIRED
- [ ] WORK UNIT SUMMARY (Contractors & Grantees only)
- [ ] PROGRAM PLANNING SUMMA (Contractors & Grantees only.
- [X] REPORT BIBLIOGRAPHY(
- [ ] BIBLIOGRAPHY INDEXES
- [ ] CURRENT AWARENESS(C

5. REQUESTER'S NAME AND TELEPHONE NUMBER
G. Pruitt 301-224-4000

6. DATE REQUESTED

7. CLASSIFICATION *(Highest)*
- [X] Unclassified
- [ ] Confidential
- [ ] Secret

8. CHECK IF DESIRED AND AUTHORIZED
- [ ] Restricted Data
- [ ] NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH
- [X] Broad Coverage
- [ ] Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*
last five years

11. DATE RESULTS NEEDED
3-3-80

12. REQUEST TITLE *(Unclassified)* *(Up to 45 Type Spaces)*
Crisis Comm.

13. REQUESTER'S REFERENCE *(Optional)*
Lib. 80-269

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested concerning crisis and emergency communications actions and problems related to national and world wide U.S. and allied nations telecommunications systems including VH single side band voice and telex and morse code radio, satellite, (comset, morisat, etc.)

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS	ANALYST	CLERK	ANALYST	CLERK

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PREVIOUS EDITIONS ARE OBSOLETE

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R&D PROGRAM PLANNING SUMMARY

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REPORT CONTROL NUMBER
RB NUMBER

1. FROM *(Complete name and address)*

ARINC Research Corp.
2551 Riva Road
Annapolis, MD 21401

2. DoD USER CODE: 01385

4. CONTRACT/GRANT/PROGRAM NUMBER: N00014-79-C-6481

3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUMMARY (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY(AD)
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS(CAB)

5. REQUESTER'S NAME AND TELEPHONE NUMBER

G. Pruitt 301-224-4000

6. DATE REQUESTED

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*: last five years

11. DATE RESULTS NEEDED: 3-3-80

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*: Peublo

13. REQUESTER'S REFERENCE *(Optional)*: 80-270

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested concerning crisis and emergency communications actions and problems related to various incidents such as The USS Pueblo, US Scoland ship Mayaguez, airplane highjackings, seizure US and allied property, diversion of US and allied merchant and air fleets away from trouble spots, sebefogz and seizure of US and allied oil plotforms operating in international waters.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS.	ANALYST	CLERK	ANALYST	CLERK

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4. CONTRACT/GRANT/PROGRAM NUMBER

N00014-79-C-6481

3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUMM (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS( )

5. REQUESTER'S NAME AND TELEPHONE NUMBER

G. Pruitt 301-224-4000

6. DATE REQUESTED

11. DATE RESULTS NEEDED

3-3-80

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 yrs)*

last five years

12. REQUEST TITLE *(Unclassified)* *(Up to 45 Type Spaces)*

Earth Stations

13. REQUESTER'S REFERENCE *(Optional)*

Lib. 80-271

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested concerning the number and location of satellite earth stations of allied nations and the satellites accessed.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS.	ANALYST	CLERK	ANALYST	CLERK

DDC FORM OCT 78 4

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Annapolis, MD 21401

2. DoD USER CODE: 01385

4. CONTRACT/GRANT/PROGRAM NUMBER: N00014-79-C-6481

3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUMMARY (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY(AD)
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS(CAB)

5. REQUESTER'S NAME AND TELEPHONE NUMBER: G. Pruitt 301-224-4000

6. DATE REQUESTED

11. DATE RESULTS NEEDED: 3-3-80

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*: last five years

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*: WWMCCS

13. REQUESTER'S REFERENCE *(Optional)*: Lib. 80-272

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested concerning World-Dide Military Command and Control System (WWMCCS) and other crisis alerting networks designated for US and allied government military and civilian units communications capabilities including WWMMCCS, Audodin, WCAN, AUTOVON, CRITICOM

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS.	ANALYST	CLERK	ANALYST	CLERK

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2. DoD USER CODE

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	PROGRAM PLANNING SUM (Contractors & Grantees on
X	REPORT BIBLIOGRAPHY
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS

5. REQUESTER'S NAME AND TELEPHONE NUMBER

G. Pruitt 301-224-4000

6. DATE REQUESTED

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIM COVER *(Limit to 10 years)*

las five years

11. DATE RESULTS NEEDED

3-3-80

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*

13. REQUESTER'S REFERENCE *(Optional)*

Lib. 80-273

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested concerning US Registry and Allied Nation Registry Maritime vessels equipped and scheduled to be equipped for satellite (Marisat, ect.] communications as well as US Registry and Allied Nation Registry Maritime vessels neither equipped nor scheduled to be equipped for satellite communications.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS	ANALYST	CLERK	ANALYST	CLE

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INFORMATION REQUEST

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R&D PROGRAM PLANNING SUMMARY

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Annapolis, MD 21401

2. DoD USER CODE: 01385

4. CONTRACT/GRANT/PROGRAM NUMBER: N00014-79-C-6481

3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUMMARY (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY(AD)
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS(CAB)

5. REQUESTER'S NAME AND TELEPHONE NUMBER: G. Pruitt 301-224-4000

6. DATE REQUESTED

11. DATE RESULTS NEEDED: 3-3-80

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*: last five years

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*: Telecommunications

13. REQUESTER'S REFERENCE *(Optional)*: Lib. 80-274

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested concerning US and allied nations telecommunications systems that might be used to transmit information related to a crisis or emergency to a central collection point including ARINC, SITA, FAA ATC, Allied Air Ministries, Private systems, DECCO, USCC systems etc.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS.	ANALYST	CLERK	ANALYST	CLERK

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PREVIOUS EDITIONS ARE OBSOLETE

INFORMATION REQUEST

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2. DoD USER CODE: 01385

4. CONTRACT/GRANT/PROGRAM NUMBER: N00014-79-C-6481

3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUMMA (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY(A
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS(CA

5. REQUESTER'S NAME AND TELEPHONE NUMBER: G. Pruitt 301-224-4000

6. DATE REQUESTED

11. DATE RESULTS NEEDED: 3-3-80

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*: last five years

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*: Comm-Failure

13. REQUESTER'S REFERENCE *(Optional)*: Lib. 80-275

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested concerning failure of the US Government to respond in a timely and adequate manner when US nationals or allied nationals or their property have been threatened by hostile acts.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS.	ANALYST	CLERK	ANALYST	CLERK

DDC FORM OCT 78 4

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3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUMMARY (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY(AD)
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS(CAB)

5. REQUESTER'S NAME AND TELEPHONE NUMBER: G. Pruitt 301-224-4000

6. DATE REQUESTED:

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*: last five years

11. DATE RESULTS NEEDED: 3-3-80

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*: Oil Rigs

13. REQUESTER'S REFERENCE *(Optional)*: 80-276

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested concerning the number and location of US and Allied nations off shore oil rigs equipped with VHF, HF and satellite communications.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS	ANALYST	CLERK	ANALYST	CLERK

DDC FORM OCT 78 4

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INFORMATION REQUEST

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3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUM... (Contractors & Grantees on ...)
X	REPORT BIBLIOGRAPHY
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS

5. REQUESTER'S NAME AND TELEPHONE NUMBER

G. Pruitt 301-224-4000

6. DATE REQUESTED

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*: last five years

11. DATE RESULTS NEEDED

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*: Threat Evaluation

13. REQUESTER'S REFERENCE *(Optional)*: Lib. 80-277

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested concerning threat evaluation delays that have occured in emergencies where US Nationals or allied nationals or their property have been involved.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS	ANALYST	CLERK	ANALYST	CLERK

DDC FORM OCT 78 4

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3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUMMARY (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY(AD)
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5. REQUESTER'S NAME AND TELEPHONE NUMBER

G. Pruitt 301-224-4000

6. DATE REQUESTED

11. DATE RESULTS NEEDED

3-3-80

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*

last five years

12. REQUEST TITLE *(Unclassified)* *(Up to 45 Type Spaces)*

Crisis Alerting

13. REQUESTER'S REFERENCE *(Optional)*

Lib. 80-278

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested on crisis-alerting procedures or systems within the Government for either civilian or military emergency situations.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS.	ANALYST	CLERK	ANALYST	CLERK

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G. Pruitt 301-224-4000

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	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

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9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERA. *(Limit to 10 years)*

last five years

11. DATE RESULTS NEEDED

3-3-80

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*

WCAN

13. REQUESTER'S REFERENCE *(Optional)*

Lib. 80-279

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested on the Worldwide Crisis Alerting Network.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
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8. CHECK IF DESIRED AND AUTHORIZED

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9. DEPTH OF SEARCH

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	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*

last five years

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*

Autodin

13. REQUESTER'S REFERENCE *(Optional)*

Lib. 80-280

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested on the Government data communications network (AUTODIN).

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS.	ANALYST	CLERK	ANALYST	CLERK

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INFORMATION REQUEST

R&T WORK UNIT SUMMARY/REPORT BIBLIOGRAPHY/ R&D PROGRAM PLANNING SUMMARY

NOTE: No carbon is required in the completion of this form since the paper has been specially treated.

SEE INSTRUCTIONS ON REVERSE

FOR DDC USE ONLY

REPORT CONTROL NUMBER

RB NUMBER

1. FROM *(Complete name and address)*

ARINC Research Corp.
2551 Riva Road
Annapolis, MD 21401

2. DoD USER CODE

01385

4. CONTRACT/GRANT/PROGRAM NUMBER

N00014-79-C-6481

3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUMMARY (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS( )

5. REQUESTER'S NAME AND TELEPHONE NUMBER

G. Pruitt 301-224-4000

6. DATE REQUESTED

11. DATE RESULTS NEEDED

3-3-80

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 ye)*

last five year

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*

Flight Paths

13. REQUESTER'S REFERENCE *(Optional)*

Lib. 80-281

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested on the flight paths and schedules of domestic and international aircraft, both scheduled airlines and inequaler private and commercial flights.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS.	ANALYST	CLERK	ANALYST	CLERK

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INFORMATION REQUEST

R&T WORK UNIT SUMMARY/REPORT BIBLIOGRAPHY/
R&D PROGRAM PLANNING SUMMARY

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FOR DDC USE ONLY
REPORT CONTROL NUMBER
RB NUMBER

1. FROM *(Complete name and address)*

ARINC Research Corp.
2551 Riva Road
Annapolis, MD 21401

2. DoD USER CODE: 01385

4. CONTRACT/GRANT/PROGRAM NUMBER: N00014-79-C-6481

3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUMMARY (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY(AD)
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS(CAB)

5. REQUESTER'S NAME AND TELEPHONE NUMBER: G. Pruitt 301-224-4000

6. DATE REQUESTED:

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*: last five years

11. DATE RESULTS NEEDED: 3-3-80

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*: G. Pruitt 301-224-4000

13. REQUESTER'S REFERENCE *(Optional)*: Lib. 80-282

14. REFERRAL SERVICE IF DESIRED:

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested on the schedules and routes of domestic and international trade vessels.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS.	ANALYST	CLERK	ANALYST	CLERK

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INFORMATION REQUEST

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X	REPORT BIBLIOGRAPHY
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS

5. REQUESTER'S NAME AND TELEPHONE NUMBER: G. Pruitt 301-224-4000

6. DATE REQUESTED

11. DATE RESULTS NEEDED: 3-3-80

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*: last five years

12. REQUEST TITLE *(Unclassified)* *(Up to 45 Type Spaces)*: Ship to Shore

13. REQUESTER'S REFERENCE *(Optional)*: 80-283

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested on the systems, procedures and requirements related to ship-to-shore communications.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

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SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS	ANALYST	CLERK	ANALYST	CLERK

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INFORMATION REQUEST

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3. TYPE OF SEARCH REQUIRED

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	PROGRAM PLANNING SUMMARY (Contractors & Grantees only)
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	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS(CAB)

5. REQUESTER'S NAME AND TELEPHONE NUMBER: G. Pruitt 301-224-4000

6. DATE REQUESTED

11. DATE RESULTS NEEDED: 3-3-80

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*: last five years

12. REQUEST TITLE *(Unclassified)* *(Up to 45 Type Spaces)*: Ground to Air

13. REQUESTER'S REFERENCE *(Optional)*: Lib. 80-284

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested on the systems, procedures and requirements for air-to-ground communications.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

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TPS	CRT	U	C	S	CLASS.	UNCLASS.	ANALYST	CLERK	ANALYST	CLERK

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ARINC Research Corp.
2551 Riva Road
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2. DoD USER CODE: 01385

4. CONTRACT/GRANT/PROGRAM NUMBER: N00014-79-C-6481

3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUMMARY (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY( )
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS( )

5. REQUESTER'S NAME AND TELEPHONE NUMBER: G. Pruitt 301-224-4000

6. DATE REQUESTED

11. DATE RESULTS NEEDED: 3-3-80

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 yrs)*: last five years

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*: Network Design

13. REQUESTER'S REFERENCE *(Optional)*: Lib. 80-285

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested on systems, data processing programs and technique for communications network design.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS	ANALYST	CLERK	ANALYST	CLERK

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INFORMATION REQUEST

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4. CONTRACT/GRANT/PROGRAM NUMBER: N00014-79-C-6481

3. TYPE OF SEARCH REQUIRED

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	PROGRAM PLANNING SUMMARY (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY(AD)
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS(CAB)

5. REQUESTER'S NAME AND TELEPHONE NUMBER

G. Pruitt 301-224-4000

6. DATE REQUESTED

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*: last five years

11. DATE RESULTS NEEDED: 3-3-80

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*: Systems & Services

13. REQUESTER'S REFERENCE *(Optional)*: Lib. 80-286

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information si requested on the tariff structures of telecommunications systems and services.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS	ANALYST	CLERK	ANALYST	CLERK

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INFORMATION REQUEST

R&T WORK UNIT SUMMARY/REPORT BIBLIOGRAPHY/
R&D PROGRAM PLANNING SUMMARY

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REPORT CONTROL NUMBER
RB NUMBER

1. FROM *(Complete name and address)*

ARINC Research Corp.
2551 Riva Road
Annapolis, MD 21401

2. DoD USER CODE: 01385

4. CONTRACT/GRANT/PROGRAM NUMBER: N00014-79-C-6481

3. TYPE OF SEARCH REQUIRED

	WORK UNIT SUMMARY (Contractors & Grantees only)
	PROGRAM PLANNING SUMMA (Contractors & Grantees only)
X	REPORT BIBLIOGRAPHY(F
	BIBLIOGRAPHY INDEXES
	CURRENT AWARENESS(C/

5. REQUESTER'S NAME AND TELEPHONE NUMBER

G. Pruitt 301-224-4000

6. DATE REQUESTED

11. DATE RESULTS NEEDED: 3-3-80

7. CLASSIFICATION *(Highest)*

X	Unclassified
	Confidential
	Secret

8. CHECK IF DESIRED AND AUTHORIZED

	Restricted Data
	NATO Only *(See Instruction No. 8 on Reverse Side)*

9. DEPTH OF SEARCH

X	Broad Coverage
	Highly Specific

10. TIME COVERAGE *(Limit to 10 years)*: last five years

12. REQUEST TITLE *(Unclassified) (Up to 45 Type Spaces)*: Identification

13. REQUESTER'S REFERENCE *(Optional)*: 80-287

14. REFERRAL SERVICE IF DESIRED

15. INFORMATION REQUIRED *(Submit request in narrative statement form)*

Information is requested on the communications systems used in identifying drug, immigration or smuggling offenders.

16. DATA TO BE USED FOR *(Optional. Describe your work problem in narrative statement form)*

FOR DDC USE ONLY

SEARCH INPUT		OUT CLASSIFICATION			REJECTS		REVIEWED BY		DATE	
TPS	CRT	U	C	S	CLASS.	UNCLASS.	ANALYST	CLERK	ANALYST	CLERK

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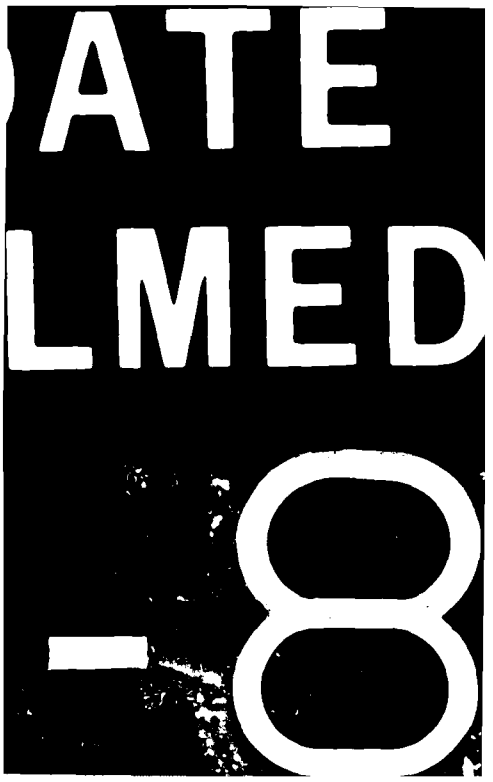
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